# First Aid: A university-school interaction

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## ABSTRACT

Health promotion through education is an educational approach that enhances society's well-being and healthy lifestyle habits. The purpose of this project was to carry out educational actions in public and private high schools, visiting schools or receiving them in the Human Anatomy laboratories of the University. Weekly meetings were held for the study and training of volunteer scholarship holders of the Biomedicine, Nursing and Pharmacy courses, together with the teaching professors, scientific articles and face-to-face training with a professional rescuer from SAMU (Mobile Emergency Care Service) were used. After contact with the educational institutions, the practices were planned and designed in two schools, which were conducted in stations, lasting fifteen minutes for each topic, they were: CPA (cardiorespiratory arrest), approach to choking and drowning, management of fractures and dislocations, management of seizures, approach to hemorrhages, care for fainting and epistaxis and treatment of burns. The educational activities were well received by the students and teachers of the schools, who pointed out that the methodology was adequate (97.4% and 100%, respectively), met expectations (93.4% and 100%) and improved knowledge on the subject (92.1% and 60%, respectively). Therefore, health education actions in schools on first aid are fundamental, highlighting the request by the school on the subject and the use of models and anatomical pieces to represent in a practical way the simulation of first care in a health emergency.

**Keywords:** First Aid, Adolescence, Health Education, Health at School, Health Promotion.

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## INTRODUCTION

First aid can be classified as care to be provided immediately to victims of accidents or specific episodes (such as sudden illness, for example), in order to maintain the victim's vital functions until the arrival of qualified assistance (MELLO et al., 2023). For this, it is of paramount importance that lay people (who are not health professionals) are trained to recognize risk situations and initiate maneuvers that can give the patient survival (DA CRUZ et al., 2021).

In Brazil, in the age group of 01 to 15 years, accidents are the main cause of death, and, in the school environment, accidents are relatively frequent and cause concern for society (DA CRUZ et al., 2021). In addition, disseminating the study of first aid in the school environment brings great benefits. In this context, around the world, entities such as the European Resuscitation Council (ERC) and the American Heart Association (AHA) have produced training that targets the school public, making students become multipliers, taking information from school to their families (MELLO et al., 2023).

However, the deficient infrastructure in materials and anatomical parts in basic schools compromises the provision of excellent teaching (ARRUDA & SOUSA, 2014). This deficiency can be met through greater interaction between university and school, with visits to the University's Anatomy laboratory and visits with specific materials to the school, providing a practical and in-depth experience in the study of first aid care (MATURANA & COSTA, 2011). It also seeks to develop and implement the interaction between the university and the community to contribute to the academic training of students. The conception of the present work aims to offer a more qualified response of the university to the demands of the schools.

University extension enables an exchange of knowledge with the community, giving new meaning to popular knowledge (SCHEIDEMANTEL et al., 2004). In addition, Law No. 13,722, of October 4, 2018, makes training in basic notions of first aid mandatory for teachers and employees of public and private establishments, from basic education to children's recreation establishments because, in addition to being important to have first aid kits, it is essential to know how to use them properly (BRASIL, 2018). The work carried out contributes to the strengthening of integration between the community and academia, favoring the development of university and school students. Making the transformation of university extension from a unidirectional activity to a dialogical interaction with society (COELHO, 2015).

The project includes the participation of scholarship holders from the Biomedicine, Nursing and Pharmacy courses, together with professors, organizing meetings to promote interaction between schools in a municipality and the university. Therefore, the present work has as its general objective to contribute to the qualification of teaching in schools, providing teachers and students with the opportunity to exchange knowledge about first aid care in various situations, in addition to the

handling of models and anatomical pieces of the University to elucidate the theoretical part and make the practice more realistic.

## METHODOLOGY

This is a descriptive exploratory field study with a qualitative-quantitative approach. The field of study comprised two basic education schools: one public and the other private, both in the city of Santo Ângelo, Rio Grande do Sul. The research subjects were students in the first and second years of high school.

The first action carried out was the dissemination of the project through contact with the municipal and state education coordinators of Santo Ângelo. Also, direct contact with private schools in the municipality.

After this, the contact with the schools aimed to define the theme to be developed and to establish the way in which the teachers in the schools and the students who participated in the meeting will act. At this point, the biology teacher was exposed to the topics we could address in the practical class at the university, and it could still be open to the discussion of other proposals suggested by the professors. Encouraging the teacher to initially work on this chosen theme in the classroom in a theoretical way, so that later there would be a practical explanation at the university. In this way, we seek to carry out a work that originates from the participants' desires.

The working group was organized in an interprofessional way, with 2 professors and scholarship holders from the courses of Biomedicine, Nursing and Pharmacy. For integration and presentation of various areas of knowledge. At the same time, the project's fellows met weekly for study groups and knowledge exchanges.

Thus, the contacted school requested the topic of first aid, encouraged by recent accidents. The fellows organized the subject into workshops, which we called workstations to receive the students. Each station lasted 15 minutes, with pre-defined themes, which were divided into seven: 1) cardiorespiratory arrest (CPA), 2) choking and drowning care techniques, 3) procedures for fractures and dislocations, 4) seizure management, 5) approach to hemorrhage (including shocks), 6) treatment of fainting and epistaxis, 7) treatment of burns and electric shock. The stations or workshops were prepared (structured) for practical activities with basic infrastructure material existing in the Anatomy and Pathology laboratory used at the university.

After the meetings, an evaluation instrument was used through a questionnaire to the participating teachers and students. The questionnaire had 8 questions for the teachers and 5 for the students, the first two being closed and the others open, they dealt with whether the time of the activity was adequate, the methodology was assertive, whether it had met the expectations, the quality of the material used and the integration with the disciplines in the school.

For the quantitative analysis, integers and percentages were used. For the qualitative analysis, a systematization through content analysis followed, at first the information collected was exhaustively read, then demarcated in its relevance, grouped into similar themes, analyzed and interpreted in the light of the theoretical frameworks.

## RESULTS

During the month of September, meetings were held with the scholarship holders to discuss integration strategies with the schools and plan intervention activities. In the first two meetings with the professor of Anatomy and Pathology, the analysis of scientific articles was carried out for theoretical guidance of the activities.

At another time, the advisor teachers, together with one of the scholarship holders, visited the Tiradentes State School with the purpose of discussing and fine-tuning details of the integration with that institution. During this meeting, the terms of the meeting and the topics to be addressed in the context of first aid training were established. Therefore, the school management and the Biological Sciences teacher brought the importance of the first aid theme to inform and guide students on topics such as: fainting, cuts, fractures, electric shock, convulsions, choking, cardiorespiratory resuscitation and others. In the meantime, another school, now URI's private school, has also shown interest in carrying out the same activity.

In view of the above, as a form of improvement, the group made up of scholarship holders from the Biomedicine, Pharmacy and Nursing courses began their studies to carry out the activities. For this reason, a meeting was held for the training of students where they received instructions from a technical nursing professional linked to the Urgency and Emergency Services (SAMU) of the city and region, as shown in Figure 1. In which he addressed several important information about first aid, providing guidance for intervention in cases of choking, care at the accident site, management of fractures and mobilization of patients and, especially, cardiorespiratory resuscitation.

Figure 1. Group of fellows and teachers following the first aider's instructions on first aid, to then apply it in schools. On the right side, fellows simulating and practicing cardiac massage and using a defibrillator on the day of the orientations.

In the meantime, a meeting was organized in the university's nursing laboratory in order to define the division of the scholarship holders in relation to the topics requested. Thus, in order to effectively meet the demands of the institution, the scholarship holders made a presentation to the project's advisors, to polish the explanation with relevant complements to the themes. Thus, the techniques were tested with laboratory materials intended for practice, and some of this material included: fractured bones, anatomy models such as arteries and veins, back, hemihead, spine with hernia, vertebrae with osteophytes, dolls for better choking instruction in babies, training dummies for cardiorespiratory arrest, tourniquets and compression bands.

In this context, the students were instructed to teach the students of a school about the importance of remaining calm, paying attention to the possibility of other victims, including possible risks to oneself, preserving the safety of the area of the incident, performing techniques to assess vital signs, awareness and removal of the "curious".

Ten scholarship holders from different courses were gathered, three from the Nursing course, three from Biomedicine and four from Pharmacy students. Therefore, the group set up seven workstations with the themes, divided between two fellows at each station where it was organized to last 15 minutes. This activity took place at the school, with the university's support materials taken by the group. In view of this, a total of seventy-seven students from the first and second year of high school participated in this activity, being divided into groups of seven to ten students for each station, as shown in figure 2. Then, the students circulated through the seven stations set up to have the opportunity to participate in all the practices.

Figure 2. Workstations created with students at the Tiradentes school, the left group guidance on cardiorespiratory resuscitation, the right on seizures.

After completing the activities, the participating students and teachers filled out a questionnaire about their perspectives on the activities. The results obtained from the students' questionnaires are shown in Table 1 and the answers from the teachers' perspectives are shown in Table 2.

| Question | Yes<br>n (%) | No<br>n (%) | Did not answer<br>n(%) |
|---|---|---|---|
| Time was right | 71 (93,4) | 5 (6,6) | 0 (0,0) |
| | 74 (97,4) | 1 (1,3) | 0 (0,0) |
| Methodology was adequate | 8 (10,5) | 62 (81,6) | 0 (0,0) |
| Material must be reviewed | 71 (93,4) | 1 (1,3) | 3 (3,9) |
| Met expectations | 70 (92,1) | 3 (3,9) | 3 (3,9) |

Source: authors

Based on the questionnaire, the students were also asked if they had any suggestions. Most of the students answered that the evaluation was valid, and their suggestions included that they would like more stations, more content, more time, and used this space to leave their compliments, their acknowledgments of the importance of the contents. Some reported that "the activity was very knowledgeable", "good participation of the academics", "dynamic and didactic explanations". They

also suggested holding the event annually. Other students suggested the inclusion of more practices, would like it to be "more in-depth", included that "the information is crucial", that "the approach is didactic and fun", and evaluated the work with excellence. Thirteen students did not submit any suggestions.

| Question | Yes<br>n (%) | No<br>n (%) | Did not answer<br>n (%) |
|---|---|---|---|
| Time was right | 4 (80,0) | 0 (0,0) | 1 (20,0) |
| Methodology was adequate | 5 (100,0) | 0 (0,0) | 0 (0,0) |
| Met expectations | 5 (100,0) | 0 (0,0) | 0 (0,0) |
| Evolved in knowledge | 3 (60,0) | 0 (0,0) | 2 (40,0) |
| Your participation was important | 5 (100,0) | 0 (0,0) | 0 (0,0) |

Source: authors

With the teachers it was no different, they were asked if there were any suggestions where the 5 teachers did not answer. Questions were raised about what the action would be after the meeting, and as an answer we obtained 2 (40%) that a post-activity report would be prepared, 1 (20%) that opted for an observation questionnaire, 2 (40%) that refrained from offering a specific answer. In addition, in this question, it was asked if there could be integration with other disciplines and we obtained an affirmative answer, 3 (60%) answered yes and 2 (40%) answered that with the discipline of languages that could be integrated.

## DISCUSSION

In the present study, the union of the theoretical part (use of a media projector, in some themes) and the use of real materials from the university – such as the anatomical dorsum for PCR simulation, bones and adhesive tapes for dislocation and hemorrhages, dummies for simulating seizures and burn models, for example – for the practical realization of the stations was extremely important to elucidate the maneuvers in a clear and objective way.  bringing reality to the simulation. The main dynamic was to approach the topics around 15 minutes per station, in a clear, practical and objective way, which leads to greater attention on the part of the students.

Based on the above, FERNANDES CARDOSO et al. (2021) approach a similar technique, they developed an educational gymkhana for adolescents with a focus on first aid, proposing a questionnaire that was previously answered by 27 students, where 12 of them opted for a teaching

method that was more prone to interactive and dynamic practice, maintaining playful and active content,  Uniting theory and practice.

On the other hand, in the study carried out by ALTINO FILHO et al. (2020), it is evident that the most used modality in schools is through lectures or expository classes. However, it is currently considered that the use of active methodologies, with practices and student participation, provides more effective results in the teaching-learning process (ALTINO FILHO et al., 2020).

In a quasi-experimental study of health education, carried out by SILVA et al. (2023), observed the importance of training teachers in daycare centers in a city. To this end, theoretical-practical activities were elaborated for the teachers, with the following themes: Foreign Body Airway Obstruction (OVACE), CRP and musculoskeletal trauma. The educational intervention was carried out with the application of pre- and post-activity questionnaires, where a significant improvement in the teachers' responses was observed, evaluating their performance at more than 90% effectiveness after the intervention (SILVA et al., 2023). However, our study focused on the orientation of students and had the active participation of teachers, where they were able to contribute with their knowledge so that the practice was not limited to replacing classes in schools.

Furthermore SILVA et al. (2022) conducted a survey with the aim of assessing lay people's knowledge about first aid in out-of-hospital settings. To this end, they developed a questionnaire addressing initial care, identification of vital signs, and procedures for contacting specialized emergency services. This questionnaire was answered by 150 people, in which the majority of participants (79%) indicated that the first measure to be taken when faced with an unconscious person would be to check vital signs, especially pulse (78%) and breathing (6.6%). Thus, most participants (84.5%) reported not feeling prepared, especially due to the lack of training and knowledge on the subject. Meanwhile, 46% of survey participants stated that, in case of accidents, the first specialized emergency service they would seek would be the SAMU (Mobile Emergency Care Service) (SILVA et al., 2022).

In addition, it is possible to intervene with strategies that favor the teaching of first aid in schools, such as the School Health Program (PSE). This program aims at the intersectoriality between health and education through the performance of the Family Health Strategy (FHS), promoting health and knowledge for the community through the professionals who compose it, therefore, the subject of first aid would be of great value to the PSE (GRIMALDI et al., 2020).

Another program that aims to raise awareness among the population is the "Samuzinho" project, carried out by the SAMU of the municipalities and, in addition to raising awareness, also trains children for emergency situations and problems caused by inappropriate calls to the emergency number 192 (GRIMALDI et al., 2020). With these strategies, it is possible to contribute to health education on the subject of first aid, both for teachers and students.

## CONCLUSION

The fact that the themes were suggested by the schools themselves and the project's working group was able to meet this demand demonstrates an effective alignment with the needs and interests of the school community.

These positive results confirm the impact and relevance of the project, providing a solid foundation for the continuation and expansion of these activities in the future.

We articulated an evaluation method and the students and teachers gave their opinions. The general impressions of the opinions of the students and teachers reflect the recommendation for the periodic repetition of the event, followed by expressive thanks for the feedback received and for its organization.

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